

Appl. No. 10/750,354
Amdt. dated November 23, 2005
Reply to Office Action of June 23, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended). ~~An active~~ A catalyst pastille comprising an active powdered catalyst having coated with a protective hydrocarbon coating material such that an essentially oxygen- and/or moisture barrier is created for the powdered catalyst, wherein said powdered catalyst has an average particle size of from about 1 μ to about 225 μ , and wherein said powdered catalyst defines a density and said coating material defines a density and the density of said powdered catalyst is greater than the density of said coating material, and wherein the said catalyst pastille is prepared by the process comprising the steps of:

- a. combining a hydrocarbon material having a congealing point of from about 110°F to about 250°F with a said powdered catalyst having an average particle size of from about 1 μ to about 225 μ in a low-shear jacketed blender to form a mixture wherein said catalyst is uniformly dispersed throughout said hydrocarbon, said low-shear jacketed blender selected to minimize catalyst attrition and being set to maintain a temperature that is from about 0°F to about 50°F above the congealing point of said hydrocarbon material;
- b. transferring said mixture from said low-shear jacketed blender to a pastillator at a temperature sufficient to maintain said hydrocarbon material in a semi-solid phase so as to avoid settling of the powdered catalyst; and
- c. depositing at a blender end of said pastillator a plurality of drops of said mixture onto a steel belt cooler of predetermined length, and transporting said drops to a discharge end of said pastillator while cooling said drops to a temperature low enough to solidify said hydrocarbon phase to form pastilles having a diameter of from about 2 mm to about 100 mm and a thickness of from about 1 mm to about 10 mm, and wherein said powdered catalyst is uniformly dispersed throughout said hydrocarbon material.

Claim 2 (currently amended). The catalyst pastille of Claim 1 wherein said pastilles are spherical, hemispherical, ellipsoidal, oval, domed, flakes and combinations thereof.

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Claim 3 (currently amended). The catalyst pastille of Claim 1 wherein said low-shear jacketed blender maintains a temperature that is from about 0°F to about 20°F above the congealing point of said hydrocarbon material.

Claim 4 (currently amended). The catalyst pastille of Claim 1 wherein said blender has at least one paddle and said paddle is positioned within said blender so as to minimize attrition of said catalyst.

Claim 5 (currently amended). The catalyst pastille of Claim 1 wherein said powdered catalyst is reduced.

Claim 6 (currently amended). The catalyst pastille of Claim 1 wherein said hydrocarbon material is selected from epoxy resin, fatty acids, fatty alcohols, fatty esters, fatty stearates, hydrocarbon resins, microcrystalline paraffins, synthetic wax, paraffin wax, polyesters, polyethylene glycol, polyethylene waxes, polyglycols, polyvinyl alcohols, polystyrene, vegetable waxes, a wax obtained from processes using coal, natural gas, bio-mass, or methanol as feedstock, a synthetic wax produced from a Fischer-Tropsch reaction, wax blends and combinations thereof.

Claim 7 (currently amended). ~~An active~~ A catalyst pastille comprising an active powdered catalyst having coated with a protective hydrocarbon coating material such that an essentially oxygen- and/or moisture barrier is created for the powdered catalyst, wherein said powdered catalyst defines a density and said coating material defines a density and the density of said powdered catalyst is greater than the density of said coating material, and wherein said powdered catalyst is uniformly dispersed throughout said coating material, and wherein the said catalyst pastille is prepared by the process comprising the steps of:

- a. combining a hydrocarbon material having a congealing point with a powdered catalyst in a low-shear jacketed blender to form a mixture wherein said catalyst is uniformly dispersed throughout said hydrocarbon, said low-shear jacketed blender being set to maintain a temperature that is from about 0°F to about 50°F above the congealing point of said hydrocarbon material;
- b. transferring said mixture from said low-shear jacketed blender to a pastillator at a temperature sufficient to maintain said hydrocarbon material in the semi-solid phase so as to avoid settling of the powdered catalyst; and

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- c. depositing at a blender end of said pastillator a plurality of drops of said mixture onto a steel belt cooler of predetermined length, and transporting said drops to a discharge end of said pastillator while cooling said drops to a temperature low enough to solidify said hydrocarbon phase to form pastilles.

Claim 8 (currently amended). The catalyst pastille of Claim 7 wherein said low-shear jacketed blender maintains a temperature that is from about 0°F to about 20°F above the congealing point of said hydrocarbon material.

Claim 9 (currently amended). The catalyst pastille of Claim 7 wherein said powdered catalyst is reduced.

Claim 10 (currently amended). The catalyst pastille of Claim 7 wherein said powdered catalyst has an average particle size of from about 1 μ to about 225 μ .

Claim 11 (currently amended). The catalyst pastille of Claim 10 wherein said powdered catalyst has an average particle size of from about 3 μ to about 150 μ .

Claim 12 (currently amended). The catalyst pastille of Claim 7 wherein said hydrocarbon material has a congealing point of from about 110°F to about 250°F.

Claim 13 (currently amended). The catalyst pastille of Claim 7 wherein said hydrocarbon material has a congealing point of from about 150°F to about 225°F.

Claim 14 (currently amended). The catalyst pastille of Claim 7 wherein said hydrocarbon material is selected from epoxy resin, fatty acids, fatty alcohols, fatty esters, fatty stearates, hydrocarbon resins, microcrystalline paraffins, synthetic wax, paraffin wax, polyesters, polyethylene glycol, polyethylene waxes, polyglycols, polyvinyl alcohols, polystyrene, vegetable waxes, a wax obtained from processes using coal, natural gas, bio-mass, or methanol as feedstock, a synthetic wax produced from a Fischer-Tropsch reaction, wax blends and combinations thereof.

Claim 15 (cancelled).

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Claim 16 (currently amended). The catalyst pastille of Claim 7 wherein said pastille comprises up to about 65 wt% catalyst.

Claim 17 (currently amended). The catalyst pastille of Claim 7 wherein said pastille has a diameter of from about 2 mm to about 100 mm and a thickness of from about 1 mm to about 10 mm.

Claim 18 (currently amended). The catalyst pastille of Claim 7 wherein said pastillator has a discharge temperature that is from about 2°F to about 150°F lower than the congealing point of said hydrocarbon material.

Claim 19 (currently amended). The catalyst pastille of Claim 7 wherein said blender has at least one paddle and said paddle is positioned within said blender so as to minimize attrition of said powdered catalyst.

Claim 20 (currently amended). ~~An active~~ A catalyst pastille comprising an active powdered catalyst having coated with a protective hydrocarbon coating material such that an essentially oxygen- and/or moisture barrier is created for the powdered catalyst, wherein said powdered catalyst defines a density and said coating material defines a density and the density of said powdered catalyst is greater than the density of said coating material, and wherein the said catalyst pastille is prepared by the process comprising the steps of:

- a. Combining a hydrocarbon material having a congealing point with a powdered catalyst in a low-shear jacketed blender to form a mixture wherein said catalyst is uniformly dispersed throughout said hydrocarbon, said low-shear jacketed blender being set to maintain a temperature that is from about 0°F to about 50°F above the congealing point of said hydrocarbon material;
- b. Transferring said mixture from said low-shear jacketed blender to a pastillator at a temperature sufficient to maintain said hydrocarbon material in a semi-solid phase so as to avoid settling of the powdered catalyst; and
- c. Depositing at a blender end of said pastillator a plurality of drops of said mixture onto a steel belt cooler of predetermined length, and transporting said drops to a discharge end of said pastillator while cooling said drops to a temperature low enough to solidify said hydrocarbon phase to form pastilles having a diameter of from about 2 mm to about 100 mm and a thickness of from about 1 mm to about 10 mm.

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Claim 21 (currently amended). The catalyst pastilles of Claim 20 wherein said pastilles are spherical, hemispherical, ellipsoidal, oval, domed, flakes and combinations thereof.